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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/695,349	11/10/2004	Richard Jason Jouet	84,777	5978
24338	7590	01/08/2009	EXAMINER	
DEPARTMENT OF THE NAVY OFFICE OF COUNSEL 3824 STRAUSS AVE, SUITE 103 Indian Head, MD 20640-5152			MCDONOUGH, JAMES E	
ART UNIT	PAPER NUMBER			
			1793	
MAIL DATE		DELIVERY MODE		
01/08/2009		PAPER		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/695,349	<b>Applicant(s)</b> JOUET ET AL.
	<b>Examiner</b> JAMES E. McDONOUGH	<b>Art Unit</b> 1793

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If no period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED. (35 U.S.C. § 133).

Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

1) Responsive to communication(s) filed on 17 October 2008.

2a) This action is FINAL.      2b) This action is non-final.

3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

4) Claim(s) 1-62 is/are pending in the application.

4a) Of the above claim(s) 4,13 and 23-62 is/are withdrawn from consideration.

5) Claim(s) \_\_\_\_\_ is/are allowed.

6) Claim(s) 1-3, 5-12 and 14-22 is/are rejected.

7) Claim(s) \_\_\_\_\_ is/are objected to.

8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

9) The specification is objected to by the Examiner.

10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a) All    b) Some \* c) None of:  
 1. Certified copies of the priority documents have been received.  
 2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

1) Notice of References Cited (PTO-892)  
 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)  
 3) Information Disclosure Statement(s) (PTO/SB/08)  
 Paper No(s)/Mail Date \_\_\_\_\_

4) Interview Summary (PTO-413)  
 Paper No(s)/Mail Date. \_\_\_\_\_

5) Notice of Informal Patent Application  
 6) Other: \_\_\_\_\_

## DETAILED ACTION

### Original Rejections

#### *Claim Rejections - 35 USC § 103*

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 1-3, 5-12, 14-20, and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Guire et al. (US 2003/0077452) in view of Van Alsten (USP 6,299,983).

Guire et al. teaches self-assembled monolayer forming polyethers covalently attached to a substrate (paragraphs 0047-0048), the use of particles of support such as aluminum (paragraphs 0032-0035), the use of azide functional groups (paragraph 0067), where the coating passivates the surface of the support (paragraph 0080), having sizes of less than 1 micron (paragraph 0005), and the polymers comprising between 10-80 wt. % of the molecule (paragraph 0052).

Although, Guire et al. to do not explicitly teach the use of multifunctional linking groups or fluorine atoms appended to the backbone, Guire et al. do teach the rest of the limitations of the claims. However, because Van Alsten teaches an improvement of adhereability to attach organic species to metal surfaces using  $\alpha$ - $\omega$  difunctional species, where the selectivity is controlled by determination of the functional group used (column 9, line 65 to column 10, line9), and Van Alsten also teaches that by fluorinating the linking backbone, thermal decomposition is lessened when compared to the fully hydrogenated backbone (column 5, lines 27-43), it would have been *prima facie* obvious to someone of ordinary skill in the art at the time the invention was made to modify the teachings of Guire et al. by employing a difunctional backbone that comprises fluorine atoms, as suggested by Van Alsten, because Van Alsten disclose that we can achieve better adhereability and better decomposition properties. Van Alsten also teaches using perfluorooctanoic acid (column 4, lines 18-32) and an  $\alpha$ - $\omega$  dicarboxylic acid to treat metal surfaces (column 2, lines 12-18).

Although, both Guire et al. and Van Alsten are silent as to whether their compositions would be castable, pressable, and/or sinterable, a similar composition would be expected to have similar properties absent any evidence to the contrary. Furthermore, these are considered to be inherent properties, as to limitations which are considered to be inherent in a reference, note the case law of *In re Ludke*, 169 USPQ 563; *In re Swinehart*, 169 USPQ 226, *In re Fitzgerald*, 205 USPQ 594; *In re Best et al.*, 195 USPQ 430; and *In re Brown*, 173 USPQ 685, 688.

With regards to the limitation of connecting at least three of the particles, it is noted that statistically, using small particles and  $\alpha$ - $\omega$  difunctional species, a fraction of the material will contain more than three particles.

Claim 21 is rejected under 35 U.S.C. 103(a) as being unpatentable over Guire et al. (US 2003/0077452) in view of Van Alsten (USP 6,299,983) as applied to claims 1-3, 5-8, 11-12, and 14-20 above, and further in view of Bradshaw (USP 5,594,064).

Although, Guire et al. does not explicitly teach the use of ethylenically unsaturated crosslinkable group, Guire et al. does teach the use of crosslinkable groups. However, because Bradshaw teaches cross linking and using ethylenically unsaturated polymers, it would have been *prima facie* obvious to someone of ordinary skill in the art at the time the invention was made to modify the teachings of Guire et al. and Van Alsten, as suggested by Bradshaw, because Bradshaw shows a successful route to cross linking by using ethylenically unsaturated polymers.

#### **Response to Arguments**

Applicants argue that there is no reason to combine Guire having ultra-thin coating properties with Van Alsten having improved durability. This is not persuasive because Guire which teaches coatings would be benefited and the skilled artisan would look to Van Alsten, as Van Alsten teaches improved method for attaching organics to metal surfaces, to improve the coating of Guire.

Applicants argue that the materials of Van Alsten such as Zinc would interfere with the use of Guire in biological applications. This is not persuasive for at least the following:

- 1.) Zinc is biologically compatible (i.e. it is actually required for life in higher organisms).
- 2.) Van Alsten was only used to show improved methods for attaching organics to a metal surface, which is relevant to both the instant invention and the reference of Guire.

Applicants argue that there amendment of at least three linked particles is not taught or suggested. This is not persuasive and the rejection has been modified for accommodate for this amendment, making this argument moot.

Applicants argue that the  $\alpha$ - and  $\omega$ - ends although, they can be the same functional groups they can not be bound to the same molecule. This is not persuasive because while it is understood that the figures of Van Alsten show the  $\omega$ - end binding to Zn, this is 1.) a metal 2.) show the ability to bind to metals, possibly the same one 3.) The figure shows the linker has the same functional groups for both the  $\alpha$ - and  $\omega$ - ends, and one skilled in the art would expect they both could be bound to the same metal particle or different metal particles.

Applicants argue that Bradshaw fails to teach any multifunctional linking molecules. While this may be true, this is not why Bradshaw was used.

### **Conclusion**

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JAMES E. MCDONOUGH whose telephone number is (571)272-6398. The examiner can normally be reached on 8:30am-5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jerry Lorengo can be reached on (571)272-1233. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/J.A. LORENZO/  
Supervisory Patent Examiner, Art Unit 1793

JEM 12/26/2008